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EXAMINER

SANTOS, PATRICK J D

ART UNIT PAPER NUMBER

2171

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13

Please find below and/or attached an Office communication concerning this application or proceeding.

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**Office Action Summary**

Application No.

09/490,836

Applicant(s)

RYAN ET AL.

Examiner

Patrick J Santos

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 January 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. Examiner has received a copy of the IDS. A signed copy of the IDS indicating references considered is enclosed with this office action.

### ***Drawings***

2. Examiner has considered applicant's arguments regarding Figures 1A, 1B, and 1C and finds them persuasive. Examiner withdraws objections regarding Figures 1A, 1B, and 1C.

### ***Specification***

3. Examiner has considered the amended abstract and notes that the objection on the abstract has been addressed.

### ***Claim Objections***

4. Examiner has considered applicant's arguments regarding objections to claims 6-9 and finds them persuasive. Objection to claims 6-9 are withdrawn.

### ***Response to Arguments***

5. Claims 1-14 are pending in this office action; Claims 11-14 are newly added.  
Applicant's arguments filed November 18, 2003 regarding the amended claims 1-10 have been

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fully considered and are persuasive. Amended Claims 1-10 and newly added Claims 11-14 are addressed below.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-2, 4-6, and 10 (as amended) are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,666,168 issued to Montgomery et al. (hereafter Montgomery '168).

Claim 1 (as amended):

Regarding Claim 1 (as amended), Montgomery '168 teaches, a method of transmitting data in a video signal [Montgomery '168: Abstract] (see Note A below), comprising the acts of:

- providing the data [Montgomery '168: col. 16, lns. 4-6];
- encoding the data [Montgomery '168: col. 16, lns. 7-8];
- modifying a predetermined part of the video signal by inserting therein the encoded data [Montgomery '168: col. 16, lns. 9-11; and
- transmitting the modified signal [Montgomery '168: col. 16, lns. 52-61];

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- wherein the predetermined part of the modified signal is not recorded by particular video recorders [Montgomery '168: col. 16, lns. 12-19; col. 2, lns. 26-28; col. 18, lns. 18-19] (see Note B below).

Note A – The preferred embodiment of Montgomery '168 is to transmit facsimile data. Since Claim 1 (as amended) is non-specific to the type of data to be transmitted, facsimile data reads upon the data of Claim 1.

Note B – The predetermined part of the modified signal in the Montgomery '168 disclosure is the upper vestigial chrominance sideband of a video signal. Since particular video recorders record the baseband of the video signal, it is inherent that the vestigial sideband of Montgomery '168 are not recorded by said particular video recorders.

Claim 2 (as amended):

Regarding Claim 2 (as amended), Montgomery '168 teaches all the limitations of Claim 1 [supra]. Furthermore, Montgomery '168 teaches that the predetermined part is in a blanking interval of the video signal [Montgomery '168: col. 16, lns. 20-27; col. 18, lns. 21-23].

Claim 4 (as amended):

Regarding Claim 4 (as amended), Montgomery '168 teaches all the limitations of Claim 1 [supra]. Furthermore, Montgomery '168 teaches that the predetermined part is above a predetermined frequency [Montgomery '168: col. 16, lns. 15-19]. Note that placing the predetermined part in the upper vestigial sideband implies that the predetermined part is above a predetermined frequency.

Claim 5 (as amended):

Regarding Claim 5 (as amended), Montgomery '168 teaches a method of receiving data encoded in a modified video signal wherein the data in a predetermined part of the video signal is not recorded by particular video recorders [Montgomery '168: col. 2, lns. 31-37; Fig. 2, col. 6, ln. 59 to col. 7, ln. 16] (see Note A below), comprising the act of:

- receiving the modified video signal [Montgomery '168: Fig. 2, items. 120 and 122];
- transmitting the video portion of the modified signal [Montgomery '168: Fig. 2, item 123; col. 7, lns. 4-9; col. 2, lns. 26-28] (See Note B below);
- extracting the encoded data from the modified video signal [Montgomery '168: Fig. 2, item. 128]; and
- decoding the extracted data [Montgomery '168: Fig. 2, items. 128 and 129].

Note A – Vestigial sidebands are read as inherently not recordable by particular video recorders (see Note B in the discussion regarding Claim 1 supra).

Note B – Fig. 2, item 123, extracts out the data injected into the video signal. The extracted data is passed on to the rest of the decoding portion of the Montgomery '168 invention [Montgomery '168: Fig. 2, item 123; col. 7, lns. 4-9]. However, the device as a whole passes the video portion to the receiver for ordinary viewing [Montgomery '168: col. 2, lns. 26-28].

Claim 6 (as amended):

Regarding Claim 6 (as amended), Montgomery '168 teaches an encoder for transmitting data encoded in a video signal [Montgomery '168: col. 1, ln. 65 to col. 2, ln. 28; col. 16, lns. 4-6] comprising:

- an input video terminal for receiving a video signal [Montgomery '168: Fig. 1, items 10, 20, and 22];

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- an input data terminal for receiving the data [Montgomery '168: Fig. 1, item 52];
- a sync separator coupled to the input video terminal [Montgomery '168: Fig. 1, item 30];
- encoding circuitry coupled to the data input terminal and the sync separator, thereby to encode the data [Montgomery '168: Fig. 1, item 54]; and
- a summer coupled to the encoding circuitry and the input video terminal, and outputting the video signal having a predetermined part thereby modified by the encoded data [Montgomery '168: Fig. 1, item 70];
- wherein the predetermined part of the modified video signal is not recorded by particular video recorders [Montgomery '168: col. 16, lns. 15-19] (see Note A below).

Note A – Vestigial sidebands are read as inherently not recordable by particular video recorders (see Note B in the discussion regarding Claim 1 *supra*).

Claim 7 (as amended):

Regarding Claim 7 (as amended), Montgomery '168 teaches all the limitations of Claim 6 [supra]. Furthermore, Montgomery '168 teaches that the predetermined part is in a blanking interval of the video signal [Montgomery '168: col. 16, lns. 20-27; col. 18, lns. 21-23].

Claim 9 (as amended):

Regarding Claim 9 (as amended), Montgomery '168 teaches all the limitations of Claim 6 [supra]. Furthermore, Montgomery '168 teaches that the predetermined part is above a predetermined frequency [Montgomery '168: col. 16, lns. 15-19] (also see note in discussion regarding Claim 4 [supra]).

Claim 10 (as amended):

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Regarding Claim 10 (as amended), Montgomery '168 teaches a decoder for receiving data in a modified video signal wherein the data is encoded into a predetermined portion of the video signal not recorded by particular video recorders [Montgomery '168: col. 2, lns. 31-37; Fig. 2, col. 6, ln. 59 to col. 7, ln. 16] (see Note A below), comprising:

- a video input terminal for receiving the modified video signal [Montgomery '168: Fig. 2, items 120 and 122];
- a video output terminal coupled to the input terminal [Montgomery '168: Fig. 2, item 123; col. 7, lns. 4-9; col. 2, lns. 26-28] (See Note B below);
- extraction circuitry having an input terminal coupled to the video input terminal and which extracts the data from the predetermined portion of the modified video signal [Montgomery '168: Fig. 2, item 123]; and
- a data output terminal coupled to the extraction circuitry to output the extracted data [Montgomery '168: Fig. 2, item 129].

Note A – Vestigial sidebands are read as inherently not recordable by particular video recorders (see Note B in the discussion regarding Claim 1 *supra*).

Note B – Fig. 2, item 123, extracts out the data injected into the video signal and passes the video portion to the receiver for ordinary viewing (see Note B in the discussion regarding Claim 5 *supra*).

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:



(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 3 and 8 (as amended) are rejected under 35 U.S.C. 103(a) as being unpatentable over Montgomery '168 in view of U.S. Patent No. 3,852,519 issued to Court (hereafter Court '519).

Claims 3 and 8 (as amended):

Regarding Claims 3 and 8 (as amended), Montgomery '168 teaches all the limitations of Claim 2 and 7 [supra]. However, Montgomery '168 does not explicitly teach that the predetermined part is below a selected voltage level.

Court '519 teaches a television communication secrecy technique in which the video carrier is suppressed for a "predetermined part" of the video in which data is to be hidden [Court '519: col. 26, lns. 40-61]. This implies modifying and specifically reducing the voltage level of the video signal.

It would have been obvious to a person having ordinary skill in the art to lower the voltage level of the signal in Montgomery '168 in a "predetermined part of the signal" as taught by Court '519. The motivation to accomplish said combination is suggested by Court '519 which teaches that additional security by is provided by selectively suppressing the video carrier [Court '519: col. 2, lns. 18-23].

10. Claims 11-14 (new claims) are rejected under 35 U.S.C. 103(a) as being unpatentable over Montgomery '168 in view of U.S. Patent No. 4,390,898 issued to Bond et al. (hereafter

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Bond '898), in further view of the publication "Applied Cryptography" by Schneier published by John Wiley and Sons, 1996 (hereafter Schneier '96).

Claims 11-14 (new claims):

Regarding Claim 11-14 (new claims), Montgomery '168 teaches all the limitations of Claim 1, 5, 6, and 10 [supra] including use of vestigial sidebands for data transfer [Montgomery '168: col. 16, lns. 12-19; col. 2, lns. 26-28; col. 18, lns. 18-19]. However, Montgomery '168 does not explicitly teach that the data is a key for descrambling or decrypting the video signal.

Bond '898 teaches sending a scrambled video signal and transmitting a key for descrambling or decrypting said video signal [Bond '898: Abstract]. However, Bond '898 does not explicitly teach using vestigial sidebands for transferring said key.

Schneier '96 teaches use of an alternate channel known to be secure for key transfer [Schneier '96: p. 176, section 8.3, first paragraph].

It would have been obvious for a person having ordinary skill in the art to accomplish the key transfer of Bond '898 with the data transfer method via vestigial sidebands of Montgomery '168. The motivation to accomplish said combination is suggested by Schneier '96 which teaches the use of an alternate channel known to be secure for key transfer [Schneier '96: p. 176, section 8.3, first paragraph]. In other words, in a situation requiring a key transfer, such as that of Bond '898, Schneier '96 there is a requirement to transfer a key in a secure fashion as not to obviate an encryption effort. Montgomery '168's vestigial sidebands are an alternate secure method to transfer a key, and thus Schneier '96 motivates the combination of Montgomery '168 and Bond '898.

***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J.D. Santos whose telephone number is 703-305-0707. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 703-308-1436. The fax phone number for the organization where this application or proceeding is assigned is 703-746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Patrick J.D. Santos

09 February 2004

  
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